

Thesis
Reports
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PLANT COMMUNITIES OF THE JARBIDGE MOUNTAIN COMPLEX

HUMBOLDT NATIONAL FOREST

Compiled for U.S. Forest Service
Intermountain Region

1975

Mont E. Lewis

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PLANT COMMUNITIES OF THE JARBIDGE MOUNTAIN COMPLEX

I. INTRODUCTION

This report covers reconnaissance studies of the vegetation and plant communities of Jarbidge Mountain Complex of northern Elko County, Nevada, made during the summer of 1974. It includes all of the Jarbidge Ranger District and a large part of the Mountain City Ranger District. The Independence Mountains of the latter District were not included.

The purpose of the study and the report is to bring together known information and to gather additional vegetation information for use in future land use planning and range analysis studies. Over 500 plant species are listed as well as 21 plant communities. Additional information will be gathered this summer (1975) to round out the report.

The method of vegetation classification follows the principles developed by Daubenmire (1968-1970). Use was also made of vegetation studies made by Pfister (1972), Steel et al (1974), Schlatterer (1972), Reed (1969), Winward (1970), and Lewis (1971).

Species nomenclature followed the checklists of Holmgren and Reveal's (1966) generally. Floras and keys were Hitchcock et al (1955, 1959, 1961, 1964, 1969), A. S. Hitchcock (1950), Holmgren (1937), Hitchcock & Cronquist (1973), and Hermann (1970).

A reconnaissance type of field study was done; 87 macroplots were analyzed by an ocular method where each of the species were listed under one of six categories. Production based on these categories were 1 (50-100%), 2 (26-50%), 3 (13-25%), 4 (6-12%), 5 (1-5%), and 6 (under 1%). Use was also made of soil-vegetation site studies made by O. C. Olson, John Arnold, W. R. Mitchell, Gerald F. Horton, Lowell E. Horton, and M. E. Lewis.

II. PLANT COMMUNITIES

A. Sagebrush communities make up a large percentage of the vegetation of the study unit. Sagebrush in some form extends from the valleys to over 8500 feet in elevation. In some areas sagebrush forms a part of a mosaic with other plant communities. Both the low growing and big sagebrush communities are represented in the sagebrush complex. The low growing sagebrush are found on the shallower, strongly structured soils while the big sagebrush is found on the deeper, weaker structured soils.

Fosberg (1963), in his study of genesis of soils associated with low and big sagebrush, found that low sagebrush vegetation types were restricted to soils with a clay "B" horizon or on bedrock occurring within 13 inches of the surface. Conversely, big sagebrush types were found on soils with clay pan or bedrock below 14 inches.

Fosberg also found that where Agropyron spicatum was the dominant associated species, precipitation was between 11 and 13 inches. Festuca idahoensis was found where precipitation was over 15 inches. Fosberg's study was made in Twin Falls County, Idaho, which is in close proximity to the Jarbidge Study Unit.

Both the big sagebrush and the low growing sagebrush are further divided into their subspecies or varieties for determination of plant communities or habitat types. The sagebrush taxon plus the associated species are used to define the specific plant community.

1. Low growing sagebrush communities

Artemisia longiloba, alkali sagebrush; A. arbuscula var. arbuscula, low sagebrush; and A. arbuscula nova, black sagebrush are the taxon used as a basis for determination of low growing sagebrush communities. The chief herbaceous species associated with each of the sagebrush species and varieties determines the habitat type or community.

a. Artemisia arbuscula arbuscula/Agropyron spicatum h.t.

ARAR/AGSP h.t. was found on the dryer sites with the low sagebrush complex. It was not as common as the ARARA/FEID h.t. and was confined generally to gravelly or stony soils on the driest exposures. There is a gradual transition to the ARAR/FEID h.t. as the moisture situation improves or the temperature is cooler.

Abundant Species

Artemisia arbuscula arbuscula

Agropyron spicatum

Frequent Species

Eriogonum caespitosum	Danthonia unispicata
E. microthecum	Erigeron aphanactis
Penstemon deustus	Purshia tridentata
Potentilla gracilis	Poa sandbergii
Castilleja flava	Aster scopulorum

High elevation (White Elephant Butte)

Frequent Species

Astragalus whitneyi	Lewisia rediviva
A. purshii	Erigeron chrysopsidis
Penstemon rydbergii varians	Senecio canus
Phlox hoodii	Antennaria microphylla
Chaenactis douglasii montana	

b. Artemisia arbuscula arbuscula/Festuca idahoensis h.t.

This is the most common low sagebrush h.t. and was found commonly on the lower slopes of the mountain.

It is found generally on soils with a heavy "B" horizon or other restrictive layers. The "A" horizon is thin (2"-4"). Most of the roots except a few coarse ones were found in the top 6"-12". Exceptions to these soil characteristics were found at higher elevations where plentiful roots were found to a depth of 18" to 23". The dryness of the sites (exposed to winds) was thought determined the type of vegetation at this high elevation.

The low sagebrush sites are low forage producers. Production is generally between 400 to 500 pounds of air-dry herbage per acre of which 35 to 50 percent is sagebrush.

Major Species

Abundant Species

Artemisia arbuscula arbuscula	Festuca idahoensis
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Frequent Species

Agropyron spicatum	Sitanion hystrix
Poa sandbergii	Danthonia spicata
Stipa thurberiana	Eriogonum microthecum
Chrysothamnus viscidiflorus	E. caespitosum
Crepis acuminata	E. heracleoides
Phlox longifolia	E. strictum
Erigeron aphanactis	Castilleja flava
E. caespitosus	Mertensia oblongifolia
Penstemon rydbergii varians	Lupinus laxiflorus
Wyethia amplexicaulis	

c. Artemisia arbuscula var. nova/Sitanion hystrix h.t.

Only one study site of three transects was available for the black sagebrush type. This was on the flats east of White Elephant Butte. Soils were similar to the low sagebrush types as was the herbage production (the average production of the three transects was 426 pounds of airdry herbage per acre).

Major Species

Abundant Species

Artemisia arbuscula nova

Sitanion hystrix

Frequent Species

Stipa thurberiana

Eriogonum microthecum

Poa sandbergii

Erigeron aphanactis

Artemisia arbuscula arbuscula

Phlox longifolia

Penstemon deustus

Cordylanthus capitatus

Castilleja chromosa

Comandra umbellata

Crepis acuminata

d. Artemisia longiloba community

This species was found to be growing on Sunflower Flat area and was generally associated with Festuca idahoensis. Ed Schlatterer also observed the species in the Pole Creek area. Further study will be necessary before a habitat type can be suggested.

2. Big sagebrush plant communities

Big sagebrush plant communities are common over much of the study area. Two big sagebrush subspecies are basic in the determination of the communities or habitat types. The subspecies in combination with the associated species define three habitat types and one community of uncertain definition.

Basin big sagebrush or Artemisia tridentata ssp. tridentata and mountain big sagebrush A. tridentata ssp. vaseyana are the big sagebrush taxon studied. The following habitat types and one unclassified community follow:

a. Basin big sagebrush

Only one habitat type was recognized. Artemisia tridentata tridentata/Agropyron spicatum h.t. This plant community was found on the deeper alluvial soils along drainageways and toe slopes from the lower to moderate elevations. It was the least plentiful sagebrush community of the study area. Seven plots

in the type were studied on the Mountain City Ranger District. Five of the plots were in good condition and two were poor. General observation was made also along roads where remnants of the type were found in fields where it received protection from grazing during the crop growing season. Here a vigorous growth of sagebrush and bluebunch wheatgrass was observed.

Basin big sagebrush is characterized by its tall, single stem growth form and its long narrow leaves. Schlatterer (1973).

The dominant species of the tridentata h.t. are A. tridentata tridentata and Agropyron spicatum where the type has not been damaged by heavy grazing.

Frequent Species

Elymus cinereus	Penstemon rydbergii varians
Poa sandbergii	Phlox longifolia
Geranium spp.	Eriogonum heracleoides
Lupinus caudatus	

Other Important Species

Purshia tridentata	Leptodactylon pungens
Potentilla gracilis	Lithospermum ruderales
Frasera speciosa	Balsamorhiza sagittata
Crepis acuminata	

Some Festuca idahoensis was found on north slopes.

b. Mountain big sagebrush types

Artemisia tridentata ssp. vaseyana is the major big sagebrush of the study area. The major associated species is determined by aspect generally. Agropyron spicatum is found on the warmer, dryer sites (south and west aspects) and Festuca idahoensis on the cooler, more mesic north and east aspects. At the higher elevations tall forbs and such grasses as Bromus marginatus and Agropyron trachycaulum are the important associates with the sagebrush. Symphoricarpos oreophilus is a common shrub throughout all of the mountain sagebrush types.

The soils of the vaseyana types are generally moderately deep with relatively thick "A" horizon. Productivity of the sites depend largely on the amount of feeding space for the roots. For example, a site with a soil depth of 15" over a highly fractured limy shale had a production of about 200 pounds of airdry forage per acre in a ARTRV/AGSP type. On an ARTRV/FEID type where the soil depth to a highly weathered granitic rock was 48 inches, the production was 1300 pounds per acre. Where Elymus cinereus made up a high percentage of the herbage of a

site, production may exceed 1600 pounds per acre. As a guide for production estimates the following figures may be useful:

ARTRV/AGSP type	600 to 1000 pounds
ARTRV/ELCI type	1200 to 1700 pounds
ARTRV/FEID type	900 to 1300 pounds
ARTRV/Tall forb type	1500 to 1800 pounds

Associated plant species of the mountain big sagebrush types are quite comparable but with enough difference to warrant separate listing.

(1) Artemisia tridentata ssp. vaseyana/Agropyron spicatum h.t.

Abundant Species

Artemisia tridentata

Agropyron spicatum

Frequent Species

Elymus cinereus
Poa sandbergii
Crepis acuminata
Gilia aggregata
Penstemon rydbergii varians
Astragalus filipes
Symphoricarpos oreophilus
Tetradymia canescens

Festuca ovina
Lupinus caudatus
Balsamorhiza sagittata
Lithospermum ruderales
Castilleja flava
Linum lewisii
Eriogonum strictum
Chrysothamnus viscidiflorus
lanceolatus

(2) Artemisia tridentata ssp. vaseyana/Festuca idahoensis h.t.

Abundant Species

Artemisia tridentata vaseyana

Festuca idahoensis
Lupinus laxiflorus

Frequent Species

Agropyron spicatum
Elymus cinereus
Geranium fremontii
G. viscosissimum
Senecio integerrimus
Balsamorhiza sagittata
Hackelia patens
H. spp. (micrantha & floribunda)
Castilleja flava
Chrysothamnus viscidiflorus
lanceolatus
Symphoricarpos oreophilus
Rosa woodsii
Ribes cereum

Melica bulbosa
Carex vallicola
Eriogonum heracleoides
Penstemon rydbergii varians
P. watsonii
Crepis acuminata
Eriogonum strictum
Wyethia amplexicaulis
Microseris nutans
Paeonia brownii
Allium acuminatum
Leptodactylon pungens
Amelanchier alnifolius
Purshia tridentata

(3) Artemisia tridentata ssp. vaseyana/Forb-Bromus marginatus h.t.

Abundant Species

Artemisia tridentata vaseyana

Frequent Species

Bromus marginatus	Elymus cinereus
Melica bulbosa	Agropyron trachycaulum
Agastache urticifolia	Stipa columbiana
Lomatium dissectum	Symphoricarpos oreophilus
Hackelia micrantha	Potentilla glandulosa
Lupinus spp.	Phacelia sericea

Occasional Species

Aster integrifolia	Wyethia amplexicaulis
Castilleja flava	Balsamorhiza sagittata
Phacelia ramosissima ramosissima	Aster perelegans
P. heterophila	Stipa columbiana
Helianthella uniflora	Castilleja miniata
Senecio serra	

B. Other Shrub Communities

Three other shrub groups occurring in the sagebrush zone are the bitterbrush (Purshia tridentata), snowbrush (Ceanothus velutinus) and curlleaf mahogany (Cercocarpus ledifolius). Yellowbrush (Chrysothamnus viscidiflorus var. lanceolatus) also occurs as the principal shrub but it is considered as a phase of a sagebrush community - perhaps fire induced.

1. Bitterbrush community

Bitterbrush is often a constituent of big sagebrush types where it may occur occasionally. It also occurs where it is the dominant shrub of the type. These sites could have been old burns. In the study area two bitterbrush communities were studied. In both of these sites Festuca idahoensis was the major constituent of the understory. The associated species were the same as in the corresponding sagebrush type.

Purshia tridentata/Festuca idahoensis community

Abundant Species

<u>Purshia tridentata</u>	<u>Festuca idahoensis</u>
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Frequent Species

Eriogonum heracleoides
Artemisia tridentata
Elymus cinereus
Geranium fremontii
Penstemon spp.
Lupinus spp.

Chrysothamnus viscidiflorus
Eriogonum strictum
E. umbellatum
Phlox longifolia
Agropyron spicatum

2. Snowbush community

There are some rather extensive areas of snowbrush (Ceanothus velutinus) on the study area. Some large types are found on the mid and higher slopes of Merritt Mountain.

Snowbrush grows in such dense stands that the associated species make up only a small percentage of the herbage. Tall forbs and upland grasses are the important associated species.

Frequent Species

Helianthella uniflora
Eriogonum heracleoides
Agropyron trachycaulum
Aster perelegans

Symphoricarpos oreophilus
Berberis repens
Poa spp.
Aster chilensis

Occasional Species

Balsamorhiza sagittata
Sitanion hystrix
Senecio cymbalarioides
Cercocarpus ledifolius
Lithospermum ruderales
Agastache urticifolia
Stipa columbiana
Senecio serra
Descurainia richardsonii
Aquilegia formosa
Prunus virginiana

Penstemon spp.
Carex rossii
Senecio integerrimus
Amelanchier alnifolia
Hackelia micrantha
Potentilla glandulosa
Bromus marginatus
Osmorhiza occidentalis
Potentilla gracilis
Mertensia ciliata

3. Curlleaf mahogany communities

Curlleaf mahogany (Ceanothus ledifolius) is quite common in the study area. It is found generally on rocky outcrops, often limestone, where fracturing allows mahogany roots to penetrate where soils are patchy and shallow. It was also found growing on relatively deep soils on north slopes.

Two plant communities were recognized in the curlleaf mahogany type, Cercocarpus ledifolius/Agropyron spicatum community on the rock outcrops and shallower soils and Cercocarpus ledifolius/Prunus virginiana community on deeper soils and generally north slopes. A similar situation was found on the Ruby Mountains (Lewis 1971).

a. Cercocarpus ledifolius/Agropyron spicatum community

Abundant Species

Cercocarpus ledifolius	Agropyron spicatum
Balsamorhiza sagittata	

Frequent Species

Symphoricarpos oreophilus	Stipa lettermanii
Hackelia patens	Amelanchier alnifolia

Occasional Species

Penstemon rydbergii varians	Castilleja sp.
Sitanion hystrix	Phacelia heracleoides
Prunus virginiana	Poa nevadensis
Elymus cinereus	Arenaria aculeata
Haplopappus acaulis	Stipa thurberiana

b. Cercocarpus ledifolius/Prunus virginiana community

Abundant Species

Cercocarpus ledifolius	Prunus virginiana
Symphoricarpos oreophilus	

Frequent Species

Stipa lettermanii	Hackelia patens
Aster sp.	Amelanchier alnifolia
Berberis repens	Lithospermum ruderales
Festuca idahoensis	Helianthella uniflora

c. Aspen type

The aspen (Populus tremuloides) type is quite limited on the study area. The bulk of it is found on the slopes above the Jarbidge River (7000' to 8500' elevation - Loope). Aspen does occur lower in favorable moisture sites along streams and pockets. So-called snow aspen with somewhat stunted and twisted growth occurs where snowbanks lie late.

The better aspen sites have relatively deep soils with thick "A" horizons and with little textural development in the "B" horizon.

Two major aspen communities were found on the study area, (1) aspen/tall forb community where tall forbs made up the bulk of the understory plants, (2) aspen shrub community. The aspen shrub was generally characterized by an understory dominated by snowberry (Symphoricarpos oreophilus). It is therefore designated as the Populus tremuloides/Symphoricarpos h.t.

The aspen type is usually a high forage producer. The aspen-forb is usually most productive with 1200 to 1700 pounds of airdry forage per acre. Aspen-shrub usually produces between 800 and 1200 pounds per acre. However, the number of aspen stems per acre has a strong influence on forage production.

Understory species of the aspen communities

Populus tremuloides/forb community

Frequent Species

Thalictrum fendleri	Senecio serra
Hackelia micrantha	Geranium viscosissimum
Agastache urticifolia	Valeriana occidentalis
Descurainia richardsonii	Osmorhiza occidentalis
Bromus marginatus	Agropyron trachycaulum
Potentilla glandulosa	Aster perelegans
Symphoricarpos oreophilus	

Other Important Species

Elymus cinereus	Poa pratensis
Galium boreale	Elymus glaucus
Potentilla gracilis	Mertensia ciliata
Smilacina stellata	Arnica cordifolia
S. racemosa	Delphinium occidentale
Viola nuttallii	Nemophila breviflora
Osmorhiza depauperata	Hydrophyllum capitatum
Sambucus racemosa	Stellaria jamesiana
Rosa woodsii	Ribes cereum

Populus tremuloides/Symphoricarpos h.t.

Common Species

Symphoricarpos oreophilus	Prunus virginiana
Ribes cereum	Ceanothus velutinus
Hackelia micrantha	Amelanchier alnifolia
Agastache urticifolia	Valeriana occidentalis
Descurainia richardsonii	Bromus marginatus
Aster perelegans	Erigeron speciosus
Geranium viscosissimum	Carex hoodii

d. Conifer and Subalpine group

Only five plots were studied in conifer-subalpine types. Percentagewise the types make up only a small part of the study area, yet they are important and plans are for further study.

Two distinct habitat types plus a mixed type were observed. Abies lasiocarpa/Arnica cordifolia h.t. is common. Abies lasiocarpa/Carex geyeri is also prominent. Whitebark pine and whitebark pine-alpine fir mixtures with a shrub understory such as Ribes montigenum are also found. Open whitebark pine had a large array of species, particularly forbs.

Forage production was generally low in this group. Full stands of alpine fir practically eliminated understory vegetation. However, the alpine fir/elk sedge habitat type had some fairly productive sites.

The open whitebark pine was the most productive of the sites observed in the conifer-subalpine types.

Understory species of the Conifer-Subalpine

1. Abies lasiocarpa/Arnica cordifolia h.t.

Abundant Species

Arnica cordifolia

Osmorhiza depauperata

Other Species

Stellaria jamesiana

Symphoricarpos oreophilus

Castilleja miniata

Aquilegia formosa

Galium bifolium

Aconitum columbianum

Descurainia richardsonii

Nemophila breviflora

Ligusticum grayi

Carex hoodii

Epilobium angustifolium

Senecio serra

Viola sp.

Pyrola dentata

P. minor

2. Abies lasiocarpa/Carex geyeri h.t.

Abundant Species

Carex geyeri

Osmorhiza depauperata

Other Species

Pyrola secunda

Stellaria jamesiana

Arnica cordifolia

Aster perelegans

Viola sp.

Carex microptera

3. Abies lasiocarpa/Pinus albicaulis/Ribes montigenum type

Most Abundant Species

Ribes montigenum

Valeriana occidentale

Stellaria jamesiana

Other Species

Carex rossii
Poa nervosa

Aquilegia formosa

4. Pinus albicaulis/Subalpine community

Most Abundant Species

Arenaria aculeata
Penstemon watsonii

Leucopoa kingii
Haplopappus macronema

Other Species

Poa sp.
Silene douglasii
Haplopappus acaulis
Castilleja miniata

Carex rossii
Eriogonum umbellatum
E. heracleoides

E. Meadow-Riparian Group

The meadow-riparian group is quite varied. This is particularly true of meadows. Even wet meadows at comparable elevations may have quite different species components. Riparian sites are a mixture of habitats with their accompanying species. Because of the complexity of this group sample sites will be summarized individually. This approach is also necessary because of the scarcity of sites in good condition.

1. Riparian site

This site is located on Merritt Creek near the mouth of Yankee Bill Creek. The species composition consists of willows with lush forbs as an understory.

Abundant Species

Salix geyeriana
Urtica dioica
Veratrum californicum

Ribes inerme
Polemonium foliosissimum

Other Species

Elymus cinereus
Thalictrum fendleri
Geum macrophyllum
Galium aparine
Aconitum columbianum

Potentilla gracilis
Valeriana occidentalis
Veronica americana
Hackelia micrantha
Carex rostrata
C. sheldonii

2. Wet meadows (mid-elevation)

The location of this meadow is two miles up Yankee Bill Creek. Mining operations have protected this meadow so it is in near pristine condition. The striking thing about this meadow is the abundance of Carex sheldonii which is a rare species in the Intermountain Region.

Abundant Species

Carex rostrata
Salix spp.

Carex sheldonii

Other Species

Glyceria elata
Carex microptera
Scirpus microcarpus
Smilacina stellata
S. racemosa
Geum macrophyllum
Potentilla gracilis
Stellaria longipes
Habenaria dilatata
Geranium viscosissimum
Juncus balticus
Lemna minor was frequent on open water

Veratrum californicum
Galium asperillum
Mertensia ciliata
Aconitum columbianum
Veronica americana
Epilobium glandulosum
Mimulus guttatus
Senecio pseud aureus
Ribes hudsonianum
Rumex pauciflorus
Juncus saximontanus

3. Wet meadow (high elevation)

Bear Creek Meadow was used to represent the high elevation meadow. Although Bear Creek Meadow is only at 8000' elevation it is comparable with the high elevation meadows of the Ruby Mountains which are characterized by Carex scopulorum. Species found in Bear Creek Meadow follow:

Abundant Species

Carex scopulorum (dominant)
C. luzulina

Eleocharis sp.

Other Species

Salix sp.
Carex microptera
Epilobium glandulosum
E. alpinum
Deschampsia caespitosa
Dodecatheon pulchellum

Veratrum californicum
Potentilla gracilis
Senecio pseud aureus
Juncus balticus
Carex aquatilis
Delphinium depauperatum

4. Wyethia - Dry meadow

Wyethia amplexicaulis appears to form a distinctive type in the study area. Further fieldwork will be necessary before a final classification can be made.

W. amplexicaulis is characteristically found on heavy, poorly drained soils. This species can also be found as a codominant with big sagebrush with the associate species of the sagebrush type.

A wyethia dry meadow site was studied on Alleghany Creek. The more important species were as follows:

Abundant Species

Wyethia amplexicaulis

Potentilla gracilis

Other Species

Poa cusickii

Senecio hydrophyllus

Oenothera flava

Epilobium glandulosum

Juncus confusus

Artemisia cana

Achillea millefolium

Rumex pauciflorus

Penstemon rydbergii

Astragalus agrestis

Wyethia helianthoides is a dominant constituent of a wet meadow at Pole Creek Ranger Station. This species is a strong increaser in the Beaver Creek meadows of the Boise National Forest of Idaho.

III. SOME NOTES ON PLANT IDENTIFICATION

Some plants are only identified to the generic name by fieldmen due to difficulty in separating species in the field. This is generally the case where a sizable number of species in a genus are involved. In limited areas like this study area, brief descriptions of species can be of great help in their field determination. Species of Penstemon, Castilleja, Eriogonum and Lupinus are very common, and by observing general characteristics can be field determined.

Of the five most common species of Penstemon found in the study area P. deustus can easily be determined by its white flower and serrate leaves. P. humilis is a very small blue-flowered species with the corolla tube about one centimeter long. P. speciosa is a beautiful large-flowered species. Its large blue corolla are from 20 to 25 mm. long. P. rydbergii var. varians is the most common species throughout the sagebrush types. It can be separated from P. watsonii, another blue-flowered species, by its ample basal leaves (rosette) and its long, acuminate calyx lobes (5 mm.). P. watsonii has few or no basal leaves and has short, broad, obtuse calyx lobes (2 to 3.5 mm.) Also P. watsonii generally has a longer corolla and extends to higher elevations.

Castilleja flava, a yellow species, was the most common species found throughout the sagebrush types. Another yellow species, C. pallescens, grows profusely in Chipman Meadows. A major difference between the two species can be found in the length of the galea (upper corolla lip). In C. flava the galea is very long while C. pallescens is very short. C. chromosa is a bright red or scarlet species of the lower brush zone. A very common species of damp and often shaded sites is C. miniata. This species is found generally from mid to upper elevations. It is commonly associated with aspen. The inflorescence is bright red to scarlet. Leaves are linear or lanceolate.

Eriogonum is common throughout the sagebrush and other brush types of the study area. A brief comparative description of the seven most common species is here included to aid field personnel. The two low growing caespitose species E. caespitosum and E. ovalifolium are common species of the lower brush zone. E. caespitosum can be identified by all the flowers of the head coming from a single involucre at the tip of a leafless flowering stem and its recurved involucral lobes. E. ovalifolium also has solitary heads but each head is a capitate cluster of several involucre, each with a single flower. The flower of E. caespitosum is yellow with rose tinge, while that E. ovalifolium is cream, white, or yellow with pinkish to purplish tinge.

Two rather closely related species E. heracleoides and E. umbellatum are of medium size. Both have a glabrous perianth with a stipe-like base. The main distinguishing feature is the whorle of leaves about halfway down the flower stem below the umbel in E. heracleoides. Both species have cream colored perianth but some varieties of E. umbellatum have yellow perianth.

Another common species of the lower sagebrush zone is E. strictum. In this species the inflorescence does not form a head, (I called it the sparse-flowered Eriogonum). The perianth is white to cream.

A shrubby species, E. microthecum is commonly associated with low sagebrush. E. vimineum is an annual found along roadbanks and waste places. It is characterized by a profusely branched inflorescence arising from a small rosette of leaves. The flowers are white, yellow, or pink.

The two most common lupines of the study area are L. laxiflorus var. calcaratus and L. caudatus. This variety of L. laxiflorus has a yellow flower and strong spurs on the calyx. L. caudatus has a blue flower and a saccate calyx. The latter species is scattered throughout the brush zones while L. laxiflorus often forms vast patches as in the Pole Creek area. Two other rather common species are L. sericeus, a spurless species, and the low growing species L. lepidus, var. aridus.

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Plants of Mt. City and Jarbidge Districts
Humboldt National Forest
Nevada

Species	Habitat	Lower Brush Z.	Mt. Brush Zone	Aspen Zone	Alpine Fir Z.	WBP-Alpine Z.
LICHENS						
Evernia vulpina	OC- On Mt. Mahogany		x			
Division of BRYOPHYTA - Liverworts & Mosses						
LIVERWORTS						
Marchantia polymorpha	OC- Boggy site, open alpine f.				x	
MOSSSES						
Leptodictyum trichopodium (Schultz) Wormsk.	Damp meadow			x		
Pohlia wahlenbergii (Web. & Mohr.) Ands.	Streamside - Salix			x	x	
Philonotis fontana						
var. americana (Dism.) Flowers ex Crum	OC- Damp meadow				x	
* * * * *						
Division of TRACHEOPHYTA - Vascular Plants						
EQUISETACEAE - Horsetail F.						
Equisetum arvense L.	Wet sites	x	x			
E. laevigatum A. Br.	OC- Wet site river bottom	x				
OPHIOGLOSSACEAE - Adder's-Tongue F.						
Botrychium boreale Milde	IF- Open wet site, Jarbidge Mt				x	
POLYPODIACEAE - Fern F.						
Athyrium filix-femina (L.) Roth	Moist woods, Brunneau Riv.					
Cystopteris fragilis (L.) Bernh.	LA- Subalpine areas				x	
Woodsia oregana D.C. Eat.	Rocks, California Creek		x			
PINACEAE - Pine F.						
Abies lasiocarpa (Hook.) Nutt.	LA- Higher ridges				x	
Pinus albicaulis Engelm.	FR- Higher ridges				x	x
P. flexilis James	OC- Midelev. canyon, high sl.			x	x	

AB-Abundant
CM-Common

FR-Frequent
IF-Infrequent

LA-Locally Abundant
LF-Locally Frequent

OC-Occasional
RA-Rare

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Plants of Mt. City and Jarbidge Districts Humboldt National Forest Nevada		Lower Brush Z.	Mt. Brush Zone	Aspen Zone	Alpine Fir Z.	WBP-Alpine Z.
Species	Habitat					
CUPRESSACEAE - Cypress F.						
Juniperus communis L. var. depressa Pursh J. scopulorum Sarg.	Timber & brush types OC- Lower canyons & aspen t.	x	x		x	x
ALISMATACEAE - Water-Plaintain F.						
Alisma plantago-aquatica L. Sagittaria cuneata Sheld.	Pond edge Ponds & ditches	x	x			
JUNCAGINACEAE - Arrow-grass F.						
POTAMOGETONACEAE - Pondweed F.						
JUNCACEAE - Rush F.						
Juncus balticus L. var. montanus Englem. J. confuses Cov. J. drummondii E. Meyer J. ensifolius Wikstr. J. mertensianus Bong. J. nevadensis Wats var. badius (Suksd.) C. L. Hitchc. J. parryi Englem. J. saximontanus A. Nels.	LA- Meadows & seeps OC- Damp to dry meadows FR- High mts. (Jarbidge Mt.) FR- Meadows & Salix type OC- Wet meadows OC- Streamside meadows IF- Open slopes OC- Meadows & riparian	x x x	x x x x x	 x x	 	
CYPERACEAE - Sedge F.						
Carex aquatilis Wahl. C. athrostachya Olney C. canescens L. C. disperma Dewey C. ebenea Rydb. C. filifolia Nutt. C. haydeniana Olney C. geyeri Boott C. hoodii Boott C. jonesii Bailey	OC- Meadows & Salix comm. OC- Meadows & Salix comm. OC- Wet meadows OC- sgbr. openings, bare areas IF- Damp meadow RA- Big sagebrush type LA- Snowbank area AB- AF/CAGE habitat type OC- Grass-forb community IF- Wet meadow	 x x x	 x x x	 x x	 x x	

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Species	Habitat	Lower Brush Z.	Mt. Brush Zone	Aspen Zone	Alpine Fir Z.	MBP-Alpine Z.
<i>Carex limnophila</i> F. J. Herm.	IF- Streamside meadow			X		
<i>C. limosa</i> L.	IF- Bog, Copper Basin			X	X	
<i>C. luzulina</i> Olney	FR- Wet meadow			X	X	
<i>C. microptera</i> Mack.	OC- Meadows			X		
<i>C. nebraskensis</i> Dewey	FR- Wet meadows & streamside	X	X			
<i>C. neurophora</i> Mack.	OC- Swampy areas, often shady			X		
<i>C. occidentalis</i> Bailey	OC- Aspen understory			X		
<i>C. pachystachya</i> Cham.	OC- Tall forb community			X		
<i>C. petasata</i> Dewey	OC- Big sagebrush communities		X			
<i>C. praeegracilis</i> W. Boott	OC- Damp meadows		X			
<i>C. pseudoscirpoidea</i> Rydb.	Alpine ridges					X
<i>C. rossii</i> Boott	FR- Brush & woodlands		X		X	
<i>C. rostrata</i> Stokes	AB- Midelevation meadows			X		
<i>C. scopulorum</i> Holm	AB- Upper elevation meadows				X	
<i>C. sheldonii</i> Mack.	AB- Midelevation meadows	X	X			
<i>C. vallicola</i> Dewey	FR- Sagebrush communities	X				
<i>Eleocharis acicularis</i> (L.) R. & S.	FR- Upper elevation meadows				X	
<i>E. bolanderi</i> Gray	IF- Wet meadows, streams	X				
<i>E. palustris</i> (L.) R. & S.	OC- Wet meadows, streams	X				
<i>E. pauciflorus</i> (Lightf.) Link	IF- Boggy areas				X	
<i>Scirpus microcarpus</i> Presl.	FR- Wet meadows				X	X
GRAMINEAE - Grass F.						
Festuceae Tribe						
<i>Bromus anomalus</i> Rupr.	Aspen type			X		
<i>B. commutatus</i> Schrad.	Grass type (Meadow Creek)		X			
<i>B. marginatus</i> Nees	FR- Grass-forb community		X	X		
<i>B. polyanthus</i> Scribn.	Aspen type			X		
<i>B. tectorum</i> L.	OC- Sagebrush communities	X				
<i>Festuca idahoensis</i> Elmer	AB- Sagebrush&Mt. brush comm.	X	X			
<i>F. octoflora</i> Walt.						
ssp. <i>hirtella</i> (Piper) A. S. Hitchc.	PJ type	X				
<i>F. pratensis</i> Huds.	Meadows - introduced	X				
<i>F. subulata</i> Trin.	Moist sites, woods		X			
<i>Glyceria elata</i> (Nash) Jones	FR- Seeps & streamside mead.			X	X	
<i>G. striata</i> (Lam.) A. S. Hitchc.	OC- Damp site, Salix comm.		X			
<i>Leucopoa kingii</i> (S. Wats.) Weber	LA- Dry sagebrush ridges		X			
<i>Melica bulbosa</i> Geyer	FR- Sagebrush & aspen types		X	X		
<i>Poa cusickii</i> Vasey	OC- Dry meadow & slopes	X	X			
<i>P. fendleriana</i> (Steud.) Vasey	IF- Dry slopes & dry meadows	X				
<i>P. interior</i> Rydb.	IF- Timber type (Copper Mt.)				X	
<i>P. juncifolia</i> Scribn.	OC- Sage-grass type		X	X		
<i>P. nervosa</i> (Hook.) Vasey	FR- Wooded areas & meadows		X	X		
<i>P. nevadensis</i> Vasey	OC- Dry slopes & meadows	X	X	X		
<i>P. palustris</i> L.	OC- Riparian community	X				

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Species	Habitat	Lower Brush Z.	Mt. Brush Zone	Aspen Zone	Alpine Fir Z.	WEP-Alpine Z.
<i>Poa pratensis</i> L.	FR- Dry sagebrush & damp Mead	x	x	x		
<i>P. reflexa</i> Vasey & Scribn.	OC- Aspen type			x		
<i>P. sandbergii</i> Vasey	FR- Sgbr. & other brush types	x	x			
<i>Puccinellia pauciflora</i> (Presl.) Munz						
var. <i>microtheca</i> (Buckl.) C. L. Hitchc.	LF- Wet meadows			x	x	
Hordeae Tribe						
<i>Agropyron dasystachyum</i> (Hook.) Scribn.	Dry slopes, sagebrush	x				
<i>A. spicatum</i> (Pursh) Scribn. & Smith						
var. <i>spicatum</i>	CM- Brush communities	x	x	x		
<i>A. subsecundum</i> (Link.) Hitchc.	Moist woods			x		
<i>A. trachycaulum</i> (Link.) Malte	FR- Moist woods & brush		x	x	x	
<i>Elymus cinereus</i> Scrib. & Merr.	FR- Deeper soils, brush types	x	x	x		
<i>E. glaucus</i> Buckl.	FR- Damp Woods			x	x	
<i>Hordeum brachyantherum</i> Nevski	IF- Dry to damp meadows	x		x		
<i>H. jubatum</i> L.	IF- Waste areas		x			
<i>Sitanion hystris</i> (Nutt.) J. G. Smith	FR- Sagebrush types	x	x			
Aveneae Tribe						
<i>Danthonia californica</i> Boland.	Meadow, Sand Creek		x			
<i>Danthonia intermedia</i> Vasey	IF- Meadows			x	x	
<i>D. unispicata</i> (Thurb.) Munro	OC- Dry rocky slopes	x	x			
<i>Deschampsia caespitosa</i> (L.) Beauv.	FR- High elevation meadows				x	
<i>D. danthonioides</i> (Trin.) Munro	IF- Meadows	x				
<i>D. elongata</i> (Hook.) Munro	OC- Damp to wet sites		x		x	x
<i>Koeleria cristata</i> (L.) Pers.	IF- Sagebrush types	x	x			
<i>Trisetum spicatum</i> (L.) Richt.	OC- Timber types				x	x
Agrostideae Tribe						
<i>Agrostis alba</i> L.	OC- River bottom meadow	x				
<i>A. diegoensis</i> Vasey	Meadow with <i>Danthonia</i>		x			
<i>A. exarata</i> Trin.	IF- Pond edge	x				
<i>A. variabilis</i> Rydb.	Open sagebrush-conifer				x	x
<i>Alopecurus aequalis</i> Sobol.	IF- Wet meadow		x	x	x	
Aristideae Tribe						
<i>Calamagrostis canadensis</i> (Michx.) Beaux.						
var. <i>acuminata</i> Vasey	IF- Streamside meadow				x	
<i>C. rubescens</i> Buckl.	IF- Alpine fir type				x	
<i>Cinna latifolia</i> (Trevir.) Griseb.	IF- Riverside meadow	x				
<i>Muhlenbergia filiformis</i> (Thurb.) Rydb.	OC- Meadows			x	x	
<i>M. richardsonis</i> (Trin.) Rydb.	OC- Dry meadow		x			
<i>Oryzopsis bloomeri</i> (Boland.) Ricker	IF- Sagebrush type		x			
<i>O. hymenoides</i> (Roem. & Schult.) Ricker	OC- Shrub type	x	x			
<i>O. webberi</i> (Thurb.) Benth.	IF- White Elephant Butte, dry		x			
<i>Phleum alpinum</i> L.	OC- High elevation meadows				x	
<i>P. pratense</i> L.	OC- Road drain, Riparian type	x				

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Species	Habitat	Lower Brush Z.	Mt. Brush Zone	Aspen Zone	Alpine Fir Z.	WBP-Alpine Z.
<i>Polypogon monspeliensis</i> (L.) Desf.	OC- Wet meadows	x				
<i>Stipa columbiana</i> Macoun.	FR- Sagebrush & woodland	x	x			
<i>S. comata</i> Trin. & Rupr.						
var. <i>intermedia</i> Scribn. & Tweedy	IF- Dry hills	x				
<i>S. lettermanii</i> Vasey	IF- Open timber & brush		x		x	
<i>S. occidentalis</i> Thurb.	OC- Sagebrush type	x				
<i>S. thurberiana</i> Piper	FR- Sagebrush types	x	x			
Phalarideae Tribe						
<i>Phalaris arundinacea</i> L.	IF- Belcher Meadow	x				
SPARGANIACEAE - Burreed F.						
LEMNACEAE - Duckweed F.						
<i>Lemna minor</i> L.	IF- Ponds, beaver				x	x
LILIACEAE - Lily F.						
<i>Allium acuminatum</i> Hook.	OC- Brush types		x			
<i>A. tribracteatum</i> Torr.	OC- Chrysothamnus type		x			
<i>Calochortus nuttallii</i> Torr. & Gray	OC- Brush types		x			
<i>Camassia quamash</i> (Pursh) Greene	OC- Meadows	x				
<i>Fritillaria atropurpurea</i> Nutt.	OC- Brush communities		x			
<i>F. pudica</i> (Pursh) Spreng.	OC- Sagebrush community	x				
<i>Smilacina racemosa</i> (L.) Desf.						
var. <i>amplexicaulis</i> (Nutt.) S. Wats.	OC- Damp woods and brush			x		
<i>S. stellata</i> (L.) Desf.	OC- Meadows & Riparian			x		
<i>Veratrum californicum</i> Dur.	LA- Meadows & seeps			x	x	
<i>Zigadenus elegans</i> Pursh	OC- Wet meadow (Copper Basin)			x		
<i>Z. paniculatus</i> S. Wats.	OC- Sagebrush communities	x	x			
IRIDACEAE - Iris F.						
<i>Iris missouriensis</i> Nutt.	OC- Streamside meadows		x			
<i>Sisyrinchium douglasii</i> A. Dietr.	IF- Meadows & brushy slopes	x	x			
<i>S. halophilum</i> Greene	Meadows & damp slopes					
<i>S. occidentale</i> Bickn. = <i>S. segatum</i> Bickn.	Meadows & damp slopes					
(Hitchcock et al treats the two latter species as parts of <i>S. angustifolium</i> complex)						
ORCHIDACEAE - Orchid F.						
<i>Corallorhiza maculata</i> Raf.	Aspen woods			x		
<i>Habenaria dilatata</i> (Pursh) Hook.	IF- Bogs, to high elevation			x	x	
<i>H. hyperborea</i> (L.) R. Br.	Bogs, Jarbidge Mts.					

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Species	Habitat	Lower Brush Z.	Mt. Brush Zone	Aspen Zone	Alpine Fir Z.	WBP-Alpine Z.
SALICACEAE - Willow F.						
<i>Populus tremuloides</i> Michx.	FR- Mid elevations			x		
<i>P. trichocarpa</i> T.&G.	CM- Canyon bottoms	x	x			
<i>Salix drummondiana</i> Barratt	L - Copper Mt. Pass				x	
<i>S. exigua</i> Nutt.	LA- Streamsides	x	x			
var. <i>melanopsis</i> (Nutt.) Cronq.						
<i>S. geyeriana</i> Anderss.	AB- Along Merritt Creek		x			
<i>S. lasiandra</i> Benth.						
var. <i>caudata</i> (Nutt.) Sudw.	FR- Jarbidge River & Elk Mt.	x	x	x		
<i>S. lemmonii</i> Bebb.	FR- Pole Creek R.S.		x	x		
<i>S. myrtillofolia</i> Anderss.	FR- Wet meadows, Elk Mt.			x	x	
<i>S. rigida</i> Muhl.						
var. <i>watsonii</i> (Bebb.) Cronq.	FR- Owyhee River	x				
<i>S. scouleriana</i> Barratt	IF- Woodland		x			
BETULACEAE - Birch F.						
<i>Alnus incana</i> (L.) Moench						
var. <i>occidentalis</i> (Dippel) C. L. Hitchc.	OC- Damp woodland			x	x	
URTICACEAE - Nettle F.						
<i>Urtica dioica</i> L.						
ssp. <i>gracilis</i> (Ait.) Seland.	LA- Riparian communities	x	x			
SANTALACEAE - Sandalwood F.						
<i>Comandra umbellata</i> (L.) Nutt.						
var. <i>pallida</i> (DC.) Jones	OC- Sagebrush & grass types	x	x	x	x	
POLYGONACEAE - Buckwheat F.						
<i>Chorizanthe brevicornis</i> Torr.						
<i>Eriogonum caespitosum</i> Nutt.	FR- Brush communities	x	x			
<i>E. chrysocephalum</i> Gray	LA- Open ridge, Wt. Eleph. Butte	x	x			
<i>E. heracleoides</i> Nutt.	FR- Brush types	x	x			
<i>E. microthecum</i> Nutt.	FR- Low sagebrush	x				
<i>E. ovalifolium</i> Nutt.	IF- Brush types	x	x			
<i>E. strictum</i> Benth.						
ssp. <i>proliferum</i> (T. & G.) Stokes	FR- Sagebrush types	x	x			
<i>E. umbellatum</i> Torr.						
var. <i>umbellatum</i>	FR- Open slopes	x	x		x	
var. <i>aridum</i> (Greene) S. Stokes	OC- Copper Mt.				x	
var. <i>glaberrimum</i> (Gandg.) Reveal	FR- Sunflower Flat		x			
var. <i>intectum</i> Nels.	OC- Open slopes	x				
<i>E. vimineum</i> Dougl.	LF- Bare areas	x	x			
<i>Oxyria digyna</i> (L.) Hill	OC- High rocky sites					x

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Species	Habitat	Lower Brush Z.	Mt. Brush Zone	Aspen Zone	Alpine Fir Z.	WBP-Alpine Z.
<i>Polygonum aviculare</i> L.	OC- Waste soil	x		x		
<i>P. bistortoides</i> Pursh	FR- Damp to wet soil				x	x
<i>P. douglasii</i> Greene	FR- Forb-grass types			x	x	
<i>Rumex paucifolius</i> Nutt.	OC- Forb and meadows			x		
<i>R. acetosella</i>						
CHENOPODIACEAE - Goosefoot F.						
<i>Chenopodium album</i> L.	Waste areas	x	x			
<i>C. capitatum</i> (L.) Asch.	IF- Open conifer				x	
<i>Eurotia lanata</i> (Pursh) Moq.	OC- Low canyon mouths	x				
<i>Grayia spinosa</i> (Hook.) Moq.	OC- Greasewood flats & sagebr	x				
<i>Monolepis nuttalliana</i> (Schult.) Greene	OC- Waste areas	x	x			
<i>Sarcobatus vermiculatus</i> (Hook.) Torr.	LA- Bottoms	x				
AMARANTHACEAE - Amaranth F.						
<i>Amaranthus graecizans</i> L.	Low sites	x				
<i>A. powellii</i> S. Wats.	Waste areas	x				
PORTULACACEAE - Purslane F.						
<i>Claytonia lanceolata</i> Pursh	IF- Moist sites			x	x	
<i>C. megarhiza</i> (Gray) Parry	IF- Talus slopes				x	x
<i>Lewisia pygmaea</i> (Gray) Robins.	OC- Open sites			x		
<i>L. rediviva</i> Pursh	OC- Low sagebrush	x				
<i>Montia chamissoi</i> (Ledeb.) Robins. & Fern.	OC- Meadows		x	x	x	
<i>Spraguea umbellata</i> Torr.	IF- Bare roadbanks		x			
CARYOPHYLLACEAE - Pink F.						
<i>Arenaria aculeata</i> Wats.	LA- CELE & alpine types		x			x
<i>A. congesta</i> Nutt.						
var. <i>congesta</i>	OC- Brush types		x			
<i>A. kingii</i> (Wats.) Jones <i>A. nuttallii</i>	OC- Sagebrush slopes	x	x			
<i>Silene douglasii</i> Hook.	LF- WBP-Forb type					x
<i>S. menziesii</i> Hook.						
var. <i>viscosa</i> (Greene) Hitchc. & Maguire	LA- Disturbed area	x	x			
<i>Spergularia rubra</i> (L.) J. & C. Presl.	LF- Bare & disturbed areas			x	x	
<i>Stellaria jamesiana</i> Torr.	OC- Sagebrush to EBP			x	x	x
<i>S. longipes</i> Goldie	OC- Wet meadows, shady areas			x	x	
PAEONIACEAE - Peony F.						
<i>Paeonia brownii</i> Dougl.	OC- Sagebrush communities		x			

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Species	Habitat	Lower Brush Z.	Mt. Brush Zone	Aspen Zone	Alpine Fir Z.	WBP- Alpine Z.
RANUNCULACEAE - Crowfoot F.						
<i>Aconitum columbianum</i> Nutt.	FR- Meadows & damp woods			x	x	
<i>Actaea rubra</i> (Ait.) Willd.	IF- Moist woods			x	x	
<i>Aquilegia formosa</i> Fisch.	FR- Damp woods & streamsides		x	x	x	
<i>Caltha leptosepala</i> DC.	OC- Meadow-E.Fk. Jarbidge Riv				x	
<i>Clematis ligusticifolia</i> Nutt.	OC- Lower canyons, <i>Salix</i> type	x				
<i>Delphinium depauperatum</i> Nutt.	OC- Meadows & brushland		x	x		
<i>D. menziesii</i> DC.						
ssp. <i>utahense</i> D. Southerland	OC- Damp meadows, aspen			x		
<i>D. occidentale</i> Wats.	OC- Aspen type			x		
<i>Ranunculus aquatilis</i> L.						
var. <i>capillaceus</i> (Thuill.) DC.	AB- Merritt Creek		x			
<i>R. eschscholtzii</i> Schlecht.	OC- Edge of snowbanks				x	x
<i>R. orthorhynchus</i> Hook.						
var. <i>platyphyllus</i> Gray	FR- Wet streamside meadow		x			
<i>Thalictrum fendleri</i> Engelm.	FR- Aspen & Riparian			x		
BERBERIDACEAE - Barberry F.						
<i>Berberis repens</i> Lindj.	FR- Mt. brush types		x	x		
CRUCIFERAE - Mustard F.						
<i>Arabis drummondii</i> Gray	OC- Brush types, dry slopes		x			
<i>A. glabra</i> (L.) Bernh.	Alleghany Hot Springs	x				
<i>A. hirsuta</i> (L.) Scop.						
var. <i>glabrata</i> T. & G.	Moist sites					x
<i>A. holboellii</i> Hornem.						
var. <i>retrofracta</i> (Graham) Rydb.	Open slopes	x			x	
<i>A. lemmonii</i> Wats.	Cliffs, Jarbidge Mt.					x
<i>A. nuttallii</i> Robins	Open sagebrush		x			
<i>Barbarea orthoceras</i> Ledeb.	Meadow (Elk Mt. & Miller Cr)		x			
<i>Brassica nigra</i> (L.) Koch.	Damp Meadow	x				
<i>Capsella bursa-pastoris</i> (L.) Medic.	Waste areas					x
<i>Cardamine cordifolia</i> Gray	Streambank			x	x	
<i>Descurainia richardsonii</i> (Sweet) E.O. Schulz						
var. <i>sonnei</i> (Robins.) C. L. Hitchc.	FR- Aspen and brush types			x	x	
<i>Draba oligosperma</i> Hook.	OC- WCP - Forb T.					x
<i>D. sphaeroides</i> Payson	Open areas					x
<i>Erysimum repandum</i> L.	IF- Sage-grass type	x				
<i>Lepidium perfoliatum</i> L. <i>L. densiflorum</i>	OC- Waste areas		x			
<i>Phoenicaulis cheiranthoides</i> Nutt.	OC- Dry slopes & rock crevice	x	x			
<i>Physaria chambersii</i> Rollins	OC- Sagebrush type	x	x			
<i>Rorippa islandica</i> (Oed.) Barb.						
var. <i>hispida</i> (Desv.) Butters & Abbe	Belcher Meadow	x				
<i>R. nasturtium-aquaticum</i> (L.) Schinz & Thell.						
<i>Thlaspi fendleri</i> Gray	In brooks		x	x		
	Rocky slopes					x

Thelypodium laciniatum L.

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Species	Habitat	Lower Brush Z.	Mt. Brush Zone	Aspen Zone	Alpine Fir Z.	WBP-Alpine Z.
CRASSULACEAE - Stonecrop F.						
<i>Sedum debile</i> S. Wats.	Disturbed area-sagebrush	x				
<i>S. lanceolatum</i> Torr.	Windswept, Red Elephant B	x				
<i>S. stenopetalum</i> Pursh	OC- Low sagebrush	x				
SAXIFRAGACEAE - Saxifrage F.						
<i>Heuchera cylindrica</i> Dougl. ex Hook. var. <i>alpina</i> Wats.	Rocky slopes				x	
<i>H. parvifolia</i> Nutt. ex T. & G. var. <i>utahensis</i> (Rydb.) Garrett	IF- Low sagebrush	x	x			
<i>Lithophragma parviflora</i> (Hook.) Nutt.	OC- Damp meadow & sagebrush		x	x		
<i>Mitella pentandra</i> Hook.	OC- Wet sites				x	
<i>Parnassia fimbriata</i> Konig.	OC- Wet sites		x	x	x	
<i>Saxifraga arguta</i> D. Don	OC- Wet sites, partial shade			x	x	
<i>S. rhomboidea</i> Greene	OC- Damp sites				x	x
GROSSULARIACEAE - Currant F.						
<i>Ribes aureum</i> Pursh	OC- Streamsides		x	x		
<i>R. cereum</i> Dougl. var. <i>inebrians</i> (Lindl.) Hitchc.	OC- Brushlands and aspen		x	x	x	
<i>R. hudsonianum</i> Richards. var. <i>petiolare</i> (Dougl.) Jancz.	OC- Wet meadows, Riparian		x	x		
<i>R. inerme</i> Rydb.	FR- Riparian sites		x	x		
<i>R. montigenum</i> McClatch.	OC- Conifer				x	x
<i>R. niveum</i> Lindl.	OC- Riverbanks	x				
ROSACEAE - Rose F.						
<i>Amelanchier alnifolia</i> (Nutt.) Nutt var. <i>alnifolia</i>	FR- Brushy types and aspen	x	x	x		
<i>Cercocarpus ledifolius</i> Nutt.	LA- Rocky hills		x			
<i>Geum macrophyllum</i> Willd. var. <i>perincisum</i> (Rydb.) Raup.	FR- Moist woods, Riparian			x	x	
<i>G. triflorum</i> Pursh var. <i>ciliatum</i> (Pursh) Fassett	FR- Mt. Meadows			x	x	x
<i>Holodiscus dumosus</i> (Hook.) Heller	FR- Ledges & rocky slopes					
<i>Horkelia fusca</i> Lindl. var. <i>parviflora</i> (Nutt.) Peck	FR- Meadow edge	x				
<i>Ivesia baileyi</i> S. Wats var. <i>baileyi</i>	Rocky slopes			x		
<i>I. gordonii</i> (Hook.) T. & G.	Dry ridges (Vincent Cr.)	x				
<i>Petrophytum caespitosum</i> (Nutt.) Rydb.	OC- Cliffs		x	x		
<i>Potentilla diversifolia</i> Lehm.	FR- Bear Creek Meadows				x	
<i>P. fruticosa</i> L.	OC- Meadow edge			x	x	

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Species	Habitat	Lower Brush Z.	Mt. Brush Zone	Aspen Zone	Alpine Fir Z.	WBP-Alpine Z.
<i>Potentilla glandulosa</i> Lindl.						
var. <i>intermedia</i> (Rydb.) C. L. Hitchc.	FR- Open slopes			x	x	
<i>P. gracilis</i> Dougl.						
var. <i>brunnescens</i> (Rydb.) C. L. Hitchc.	FR- Tall forb, aspen			x		
var. <i>elmeri</i> (Rydb.) Jeps.	OC- Damp meadow	x	x			
var. <i>flabelliformis</i> (Lehm.) Nutt.	Meadows & slopes	x	x			
var. <i>pulcherrima</i> (Lehm.) Fern.	Dry meadows & slopes	x	x			
<i>Prunus virginiana</i> L.						
var. <i>melanocarpa</i> (A. Nels.) Sarg.	FR- Aspen and brush types		x	x		
<i>Purshia tridentata</i> (Pursh) DC.	LA- Sagebrush types		x			
<i>Rosa woodsii</i> Lindl.						
var. <i>ultramontana</i> (Wats.) Jeps.	FR- Riparian & aspen types	x	x	x		
<i>Rubus idaeus</i> L.						
ssp. <i>sachalinensis</i> (Lefl.) Focke	FR- Rocky slopes		x		x	
<i>R. parviflorus</i> Nutt.	Open woods			x	x	
<i>Sibbaldia procumbens</i> L.	Open areas, grass-forb				x	x
<i>Sorbus scopulina</i> Greene	Thickets & woodlands			x		
LEGUMINOSAE - Pea F.						
<i>Astragalus adsurgens</i> Hook.	OC- Meadow		x	x		
<i>A. agrestis</i> Dougl.	FR- Meadows & slopes		x		x	
<i>A. filipes</i> Torr.	FR- Sagebrush types	x	x			
<i>A. iodanthus</i> S. Wats.	Sagebrush (Haystack Cr.)	x				
<i>A. lentiginosus</i> Dougl.						
var. <i>salinus</i> (Howell) Barneby	Near Mt. City, depression	x				
<i>A. purshii</i> Dougl.						
var. <i>tinctus</i> Jones	OC- Windswept, Red Eleph. Butte	x				
<i>A. tenellus</i> Pursh	OC- Open slopes Wt. Eleph. Bu.	x	x			
<i>A. whitneyi</i> Gray	OC- Windswept slope, low sgbr		x			
<i>Glycyrrhiza lepidota</i> Pursh	IF-					
<i>Lupinus argenteus</i> Pursh						
<i>L. caudatus</i> Kell.	FR- Sagebrush communities	x	x			
<i>L. holosericeus</i> Nutt.	Sunflower Flats		x			
<i>L. laxiflorus</i> Dougl.						
var. <i>laxiflorus</i>	OC- Copper Basin		x	x		
var. <i>calcaratus</i> (Kellogg) Dunn	AB- Pole Creek area		x			
<i>L. lepidus</i> Dougl.						
var. <i>aridus</i> (Dougl.) Jeps.	OC- Sagebrush (Haystack Cr.)	x				
<i>L. sericeus</i> Pursh	OC- Forb type (Miller Cr.)			x		
<i>Medicago lupulina</i> L.	Waste sites					
<i>Melilotus officinalis</i> (L.) Lam.	Seeded area					
<i>Oxytropis oreophila</i> Gray	White Elephant Butte		x			
<i>Trifolium cyathiferum</i> Lindl.	LF- Open sagebrush		x			
<i>T. hybridum</i> L.	OC- Hagenbuch Meadow		x			
<i>T. longipes</i> Nutt.	Damp site		x			
<i>T. variegatum</i> Nutt.	IF- Mead., Humphery, H.E.S.		x			

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Species	Habitat	Lower Brush Z.	Mt. Brush Zone	Aspen Zone	Alpine Fir Z.	WBP-Alpine Z.
GERANIACEAE - Wild Geranium F.						
<i>Geranium fremontii</i> Torr.	IF- Open slopes	x	x	x		
<i>G. viscosissimum</i> Fisch. & C. A. Meyer var. <i>viscosissimum</i>	FR- Open forb-grass	x	x			
LINACEAE - Flax F.						
<i>Linum lewisii</i> Pursh	OC- Sagebrush communities	x	x			
CALLITRICHACEAE - Water Starwort F.						
<i>Callitriche hermaphroditica</i> L.	OC- Pond, Upper Copper Basin			x		
LIMNANTHACEAE - False Mermaid F.						
<i>Floerkea proserpinacoides</i> Willd.	LF- Damp bank, Pole Creek R.S.			x		
ACERACEAE - Maple F.						
<i>Acer glabrum</i> Torr.						
RHAMNACEAE - Buckthorn F.						
<i>Ceanothus velutinus</i> Dougl.	AB- CEVE h.t.&sagebrush comm.	x				
MALVACEAE - Mallow F.						
<i>Iliamna rivularis</i> (Dougl.) Greene	OC- Roadsides, conifer types			x	x	
<i>Sidalcea oregana</i> (Nutt.) Gray	OC- Timber edge & sagebrush	x	x	x		
<i>Sphaeralcea coccinea</i> (Pursh) Rydb.	OC- Sagebrush type	x				
HYPERICACEAE - St. John'swort F.						
<i>Hypericum anagalloides</i> C. & S.	OC- Bogs & streamsides		x	x	x	
<i>H. formosum</i> H.B.K.						
ssp. <i>scouleri</i> (Hook.) C. L. Hitchc.	OC- Meadows & open woodland			x	x	
VIOLACEAE - Violet F.						
<i>Viola adunca</i> J. E. Smith	IF- Damp sites			x	x	
<i>V. nuttallii</i> Pursh						
var. <i>major</i> Hook.	OC- Aspen woods			x		
<i>V. purpurea</i> Kellogg						
var. <i>venosa</i> (S. Wats.) Brain.	OC- Open timber				x	

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Species	Habitat	Lower Brush Z.	Mt. Brush Zone	Aspen Zone	Alpine Fir Z.	WBP-Alpine Z.
LOASACEAE - Blazing Star F.						
Mentzelia albicaulis Doug.	OC- Dry roadside		x			
CACTACEAE - Cactus F.						
Pediocactus simpsonii (Engelm.) Britt. & Rose	OC- Low sagebrush type	x				
ELAEAGNACEAE - Oleaster F.						
Shepherdia canadensis (L.) Nutt.	OC- Timber types			x		
ONAGRACEAE - Evening Primrose F.						
Boisduvalia stricta (Gray) Greene	IF- Pond edge		x			
Circaea alpina L.						
var. pacifica (Asch. & Magnus) M.E. Jones	OC- Damp shade (Alnus & Salix)			x		
Epilobium alpinum L. Var. alpinum	OC- Meadows		x	x	x	
E. angustifolium L.	OC- Damp woods		x	x	x	
E. glandulosum Lehm.						
var. glandulosum	OC- Meadows & riparian		x	x		
var. tenue (Trel.) C. L. Hitchc.	IF- Damp meadow	x	x			
E. minutum Lindl.	OC- Sagebrush type		x			
E. obcordatum Gray	OC- Meadow				x	x
E. paniculatum Nutt.	OC- Dry roadsides		x	x		
E. watsonii Barbey						
var. occidentale (Trel.) C. L. Hitchc.	OC- Damp sites, Salix type		x			
Gayophytum diffusum T. & G.	OC- Sagebrush types		x		x	
Oenothera breviflora T. & G.	IF- Sunflower Flats Reservoir		x			
OE. caespitosa Nutt.	IF- Low sagebrush (Haystack Cr)	x				
OE. flava (A. Nels.) Garrett	FR- Damp meadow		x	x		
OE. tenacetifolia T. & G.	LA- Roadside	x				
UMBELLIFERAE - Parsley F.						
Angelica kingii (S. Wats.) C. & R.	IF- Damp site, aspen type			x		
Cymopterus longipes S. Wats.						
Heracleum lanatum Michx.	OC- Riparian sites		x	x		
Ligusticum grayi Coult. & Rose	LA- Damp site, timber & Salix			x	x	
L. porteri Coult. & Rose	Forb-grass community			x	x	
Lomatium dissectum (Nutt.) Math. & Const.						
var. multifidum (Nutt.) Math. & Const.	FR- Sagebrush types		x			
L. grayi Coult. & Rose	OC- Forb-gr. T., N F Calif Cr		x			
L. leptocarpum (T. & G.) Coult. & Rose	Forb-grass (California Cr)		x			
L. macrocarpum (Hook. & Arn.) Coult. & Rose	Sagebrush type		x			
L. montanum Coult. & Rose	LF- Sagebrush & yellowbrush		x			

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Species	Habitat	Lower Brush Z.	Mt. Brush Zone	Aspen Zone	Alpine Fir Z.	WBP- Alpine Z.
<i>Lomatium nudicaule</i> (Pursh) Coult. & Rose	LF- Heavy soils, sagebrush t.	x	x			
<i>L. triternatum</i> (Pursh) Coult. & Rose						
ssp. <i>platycarpum</i> (Torr.) Cronq.	OC- Sagebrush types		x			
<i>Osmorhiza chilensis</i> Hook. & Arn.	FR- Aspen forb type			x		
<i>O. depauperata</i> Phil.	FR- Woodland and slopes		x	x		
<i>O. occidentalis</i> (Nutt.) Torr.	FR- Aspen, tall forb types		x	x		
<i>Perideridia bolanderi</i> (Gray) Nels. & Macbr.	OC- Forb type, Calif. Basin		x			
<i>P. gairdneri</i> (Hook. & Arn.) Mathias	OC- Open conifer type				x	
CORNACEAE - Dogwood F.						
<i>Cornus stolonifera</i> Michx.						
var. <i>occidentalis</i> (T. & G.) C. L. Hitchc.	OC- Seeps and streamside	x	x	x	x	
ERICACEAE - Heath F.						
<i>Kalmia polifolia</i> Wang.	IF- Jarbidge Mts.				x	x
<i>Ledum glandulosum</i> Nutt.	OC- Timber type				x	
<i>Pyrola asarifolia</i> Michx.	IF- Boggy area, open AF				x	
<i>P. dentata</i> Smith	IF- Alpine fir type				x	
<i>P. minor</i> L.	Moist woods, Jarbidge Mt.				x	
<i>P. picta</i> Smith	Timber type (Lime Creek)				x	
<i>P. secunda</i> L.	FR- Alpine fir type				x	
<i>P. virens</i> Schw.	Moist woods				x	
<i>Vaccinium caespitosum</i> Michx.	Meadow				x	
<i>V. myrtillus</i> L.	Jarbidge Mts.				x	
<i>V. occidentale</i> Gray	Timber type (Fox Creek)				x	
PRIMULACEAE - Primrose F.						
<i>Dodecatheon alpinum</i> (Gray) Greene	OC- Meadows			x	x	
<i>D. pulchellum</i> (Raf.) Merrill						
var. <i>monanthum</i> (Greene) C. L. Hitchc.	FR- Meadow (Pole Cr. R.S.)			x		
GENTIANACEAE - Gentian F.						
<i>Frasera speciosa</i> Dougl.	OC- Sagebrush to open aspen	x	x			
<i>Gentiana affinis</i> Griseb.	OC- Meadows	x	x			
<i>G. calycosa</i> Griseb.	OC- Meadows			x	x	
MENYANTHACEAE - Buckbean F.						
<i>Menyanthes trifoliata</i> L.	Boggy area (Copper Basin)			x		

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Species	Habitat	Lower Brush Z.	Mt. Brush Zone	Aspen Zone	Alpine Fir Z.	WBP-Alpine Z.
APOCYNACEAE - Dogbane F.						
<i>Apocynum androsaemifolium</i> L. var. <i>glabrum</i> Macoun	OC- Roadbanks, canyon bottoms	x				
ASCLEPIADACEAE - Milkweed F.						
<i>Asclepias speciosa</i> Torr.	Disturbed areas	x				
POLEMONIACEAE - Phlox F.						
<i>Collomia debilis</i> (S. Wats.) Greene	IF- Talus slopes (Black Jumbo)					x
<i>C. grandiflora</i> Dougl.	IF- Open woods		x			
<i>C. linearis</i> Nutt.	OC- Open woods			x		
<i>C. tenella</i> Gray	OC- Pole Creek, meadow			x		
<i>Gilia aggregata</i> (Pursh) Spreng.	OC- Sagebrush types	x	x			
<i>Leptodactylon pungens</i> (Torr.) Nutt.	OC- Sagebrush types	x	x			
<i>Linanthus harknessii</i> (Curran) Greene	OC- Damp meadows			x	x	
<i>Microsteris gracilis</i> (Hook.) Greene var. <i>humilior</i> (Hook.) Cronq.	OC- Damp meadows & sagebrush		x	x		
<i>Navarretia intertexta</i> (Benth.) Hook. var. <i>propinqua</i> (Suksd.) Brand	OC- Roadside		x			
<i>Phlox austromontana</i> Cov.	IF- Open slopes	x				
<i>P. hoodii</i> Rich.	OC- Sagebrush types	x	x			
<i>P. longifolia</i> Nutt.	FR- All brush types	x	x			
<i>Polemonium foliosissimum</i> Gray	LA- Damp site, Salix type		x			
HYDROPHYLLACEAE - Waterleaf F.						
<i>Hydrophyllum capitatum</i> Dougl. var. <i>alpinum</i> S. Wats.	FR- Woodland		x	x		
<i>Nemophila breviflora</i> Gray	FR- Woodland			x	x	
<i>Phacelia hastata</i> Dougl. var. <i>alpina</i> (Rydb.) Cronq.	OC- Brush types		x			
<i>P. heterophylla</i> Pursh	IF- Sagebrush types		x			
<i>P. idahoensis</i> Henderson	IF- Forb type (Alleghany Cr.)			x		
<i>P. ramosissima</i> Dougl.	OC- Sagebrush type		x			
<i>P. sericea</i> (Grah.) Gray	FR- Brush types	x	x			
BORAGINACEAE - Borage F.						
<i>Cryptantha affinis</i> (Gray) Greene	Sheep bedground, Coon Cr.				x	
<i>C. circumscissa</i> (H. & A.) Johnst.	Bull camp, Elk Mt.		x			
<i>C. echinoides</i> (M. E. Jones) Payson	Sagebrush type	x	x			
<i>C. humilis</i> (Greene) Payson	Dry slopes	x				
<i>C. nevadensis</i> Nels. & Kennedy	OC- Dry roadside		x			

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Species	Habitat	Lower Brush Z.	Mt. Brush Zone	Aspen Zone	Alpine Fir Z.	WBP-Alpine Z.
<i>Cryptantha torreyana</i> (Gray) Greene	Dry slopes	x				
<i>C. watsonii</i> (Gray) Greene	Sagebrush	x	x			
<i>Hackelia floribunda</i> (Lehm.) Johnst.	OC- Brush & grass-forb types		x	x		
<i>H. micrantha</i> (Eastw.) J. C. Gentry	FR- Brush & aspen types		x	x		
<i>H. patens</i> (Nutt.) I. M. Johnst.	FR- Brush & open woods		x	x		
<i>Lappula redowskii</i> (Hornem.) Greene	OC- Dry roadside & brush type		x			
<i>Lithospermum ruderales</i> Dougl.	FR- Brush types	x	x			
<i>Mertensia arizonica</i> Greene						
var. <i>leonardi</i> (Rydb.) Johnst.	Aspen			x		
<i>M. ciliata</i> (James) G. Don	FR- Damp meadows & woodland		x	x	x	
<i>M. oblongifolia</i> (Nutt.) G. Don	FR- Brush types	x	x			
<i>Plagiobothrys leptocladus</i> (Greene) Johnst.	IF- Low sagebrush types	x				
LABIATAE - Mint F.						
<i>Agastache urticifolia</i> (Benth.) Kuntze	FR- Brush & woodland		x	x		
<i>Marrubium vulgare</i> L.	Waste areas	x	x			
<i>Mentha arvensis</i> L.						
var. <i>glabrata</i> (Benth.) Fern.	Wet sites	x				
<i>Monardella odoratissima</i> Benth.	FR- High, dry slopes				x	
<i>Scutellaria antirrhinoides</i> Benth.	OC- Low sagebrush	x				
<i>S. nana</i> Gray	IF- Alleghany Hot Springs	x				
SCROPHULARIACEAE - Figwort F.						
<i>Castilleja angustifolia</i> (Nutt.) G. Don	Sagebrush-forb (Haystack)	x				
<i>C. applegatei</i> Fern.	IF- Low sagebrush (Sheep Cr.)	x				
<i>C. chromosa</i> A. Nels.	OC- Low sagebrush	x				
<i>C. flava</i> S. Wats.	FR- Sagebrush types	x	x			
<i>C. inverta</i> (Nels. & Macbr.) Penn. & Ownbey	Sagebrush type	x	x			
<i>C. linariaefolia</i> Benth.	OC- Open timber & brush		x		x	
<i>C. miniata</i> Dougl.	FR- Aspen & tall forb types		x	x	x	
<i>C. pallescens</i> (Nutt.) Greenm.	AB- Meadows (Chipman Mead)		x			
<i>C. viscidula</i> A. Gray						
<i>Collinsia parviflora</i> Dougl.	FR- Sagebrush types		x			
<i>Cordylanthus capitatus</i> Nutt.	OC- Sagebrush types	x	x			
<i>C. ramosus</i> Nutt.	Dry slopes	x	x			
<i>Mimulus guttatus</i> DC.	Wet sites, willow type		x	x	x	
<i>M. lewisii</i> Pursh	FR- Streamside		x	x		
<i>M. moschatus</i> Dougl.	LA- Streamside			x	x	
<i>M. nanus</i> Hook. & Arn.	OC- Dry hillsides	x	x			
<i>Orthocarpus luteus</i> Nutt.	IF- Meadows or dry slopes	x	x			
<i>Pedicularis groenlandica</i> Retz.	OC- Wet meadows		x		x	
<i>Penstemon deustus</i> Dougl.	OC- Low sagebr. & rocky slope	x	x			
<i>P. humilis</i> Nutt.	OC- Sagebrush slopes	x	x			
<i>P. procerus</i> (Dougl.)						
var. <i>formosus</i> (A. Nels.) Cronq.	OC- Grass-forb type			x		
<i>P. pratensis</i> Greene	OC- Brush & open woods		x	x		
<i>P. radicosus</i> A. Nels.	Sagebrush types	x	x			

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Species	Habitat	Lower Brush Z.	Mt. Brush Zone	Aspen Zone	Alpine Fir Z.	WBP-Alpine Z.
<i>Penstemon rydbergii</i> A. Nels. var. <i>varians</i> (A. Nels.) Cronq.	FR- Brush types	x	x			
<i>P. speciosus</i> Dougl.	OC- Sagebrush & lower canyons	x	x			
<i>P. subglaber</i> Rydb.	Shrub types		x			
<i>P. utahensis</i> Eastw.	Sagebrush type	x				
<i>P. watsonii</i> Gray	FR- High elev. brush-forb t.		x	x	x	x
<i>Veronica americana</i> Schw.	Streams & wet meadows		x	x		
<i>V. wormskjoldii</i> Roem. & Schult.	Damp meadows				x	
OROBANCHACEAE - Broomrape F.						
<i>Orobanche multiflora</i> Nutt.	Parasite on sagebrush	x	x			
RUBIACEAE - Madder F.						
<i>Galium aparine</i> L. var. <i>echinospermum</i> (Wallr.) Farw.	OC- Damp shade, <i>Salix</i>		x	x		
<i>G. aspernum</i> Gray	OC- Shady wet sites		x	x		
<i>G. bifolium</i> S. Wats.	OC- Woodland			x	x	
<i>G. boreale</i> L.	IF- Aspen type			x		
<i>G. multiflorum</i> Kell.	IF- Sagebrush (Deep Creek)	x				
CAPRIFOLIACEAE - Honeysuckle F.						
<i>Lonicera involucrata</i> (Rich.) Banks	Aspen type			x		
<i>Sambucus cerulea</i> Raf.	OC- River bottoms	x	x			
<i>S. racemosa</i> L. var. <i>melanocarpa</i> (Gray) McMinn	OC- Wooded slopes		x	x		
var. <i>microbotrys</i> (Rydb.) Kearney & Peebles	OC- Aspen type			x		
<i>Symphoricarpos mollis</i> Nutt. var. <i>acutus</i> Gray	IF- Dry slopes, Jarbidge Mt.		x	x		
<i>S. oreophilus</i> Gray var. <i>utahensis</i> (Rydb.) A. Nels.	FR- Sagebrush & forb types		x	x	x	x
VALERIANACEAE - Valerian F.						
<i>Valeriana edulis</i> Nutt.	IF- Sagebrush-forb type		x			
<i>V. occidentalis</i> Heller	FR- Woodland & brush types			x	x	x
COMPOSITAE - Sunflower F.						
<i>Achillea millefolium</i> L. ssp. <i>lanulosa</i> (Nutt.) Piper	OC- Brush & woodland types	x	x	x		
<i>Agoseris aurantiaca</i> (Hook.) Greene	OC- Open area, tall forb type			x		
<i>A. glauca</i> (Pursh) Raf.	OC- Sagebrush types	x	x			
<i>Antennaria anaphaloides</i> Rydb.	FR- Brush type		x			
<i>A. microphylla</i> Rydb.	FR- Sagebrush type	x	x			

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<i>Antennaria stenophylla</i> Gray	Sagebrush t. (Haystack Cr)	x				
<i>A. umbrinella</i> Rydb.	Open sites, grass-forb		x		x	
<i>Arnica chamissonis</i> Less.				x	x	
ssp. <i>foliosa</i> (Nutt.) Maguire	FR- Wet meadow			x	x	
<i>A. cordifolia</i> Hook.	FR- Woodland types			x	x	
<i>A. mollis</i> Hook. <i>A. serotia</i>	LA- Wet meadow				x	
<i>Artemisia arbuscula</i> Nutt.						
var. <i>arbuscula</i>	AB- Brush type	x	x			
var. <i>nova</i> (A. Nels.) Cronq.	FR- Brush type	x				
<i>A. cana</i> Pursh						
ssp. <i>viscidula</i> (Osterhout) Beetle	OC- Meadow edge	x	x			
<i>A. longiloba</i> (Osterhout) Beetle	FR- Open slopes (Sunflower Fl)		x			
<i>A. ludoviciana</i> Nutt.						
var. <i>ludoviciana</i>	FR- Sagebrush types	x	x			
var. <i>latiloba</i> Nutt.	OC- Brush types	x				
<i>A. tridentata</i> Nutt.						
ssp. <i>tridentata</i>	FR- Lower drainage bottoms	x	x			
ssp. <i>vaseyana</i> (Rydb.) Beetle	AB- Upper slopes		x	x	x	
<i>Aster chilensis</i> Nees						
ssp. <i>adscendens</i> (Lindl.) Cronq.	OC- Brush & aspen		x	x		
<i>A. foliaceus</i> Lindl.						
var. <i>parryi</i> (D. C. Eat.) Gray	OC- Tall forb type			x	x	
<i>A. integrifolius</i> Nutt.	FR- Forb types		x	x	x	
<i>A. laevis</i> L.						
var. <i>geyeri</i> Gray	OC- Roadside (Merritt Mt.)				x	
<i>A. perelegans</i> Nels. & Macbr.	FR- Brush & open woods		x	x	x	
<i>A. scopulorum</i> Gray	OC- Low sagebrush	x				
<i>Balsamorhiza hookeri</i> Nutt.	OC- Sagebrush (Haystack Cr.)	x				
<i>B. sagittata</i> (Pursh) Nutt.	FR- Brush types	x	x			
<i>Brickellia microphylla</i> (Nutt.) Gray	OC- Sagebrush-grass	x				
<i>Chaenactis douglasii</i> (Hook.) Hook. & Arn.						
var. <i>achilleaefolia</i> (Hook. & Arn.) A. Nels.	FR- Brush types	x	x			
var. <i>montana</i> M. E. Jones	OC- Open ridges		x		x	
<i>Chrysothamnus nauseosus</i> (Pall.) Britt.						
var. <i>albicaulis</i> (Nutt.) Rydb.	IF- Sagebrush type	x				
var. <i>hololeucus</i> (Gray) Hall	Sagebrush sl. (Wrangle Mt)		x			
<i>C. viscidiflorus</i> (Hook.) Nutt.						
var. <i>lanceolatus</i> (Nutt.) Greene	AB- Brush types		x			
var. <i>linifolius</i> (Greene) Kittell	OC- Open slopes		x			
<i>Cirsium eatoni</i> (Gray) Robbins.	OC- Dry slopes		x			
<i>C. scariosum</i> Nutt.	OC- Moist meadows		x	x		
<i>C. utahense</i> Petrak	OC- Brush types	x	x			
<i>Crepis acuminata</i> Nutt.	FR- Brush types	x	x			
<i>C. modocensis</i> Greene	OC- Brush types		x			
<i>Erigeron aphanactis</i> (Gray) Greene	FR- Sagebrush types	x				
<i>E. argentatus</i> Gray	IF- Brush types	x	x			

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<i>Erigeron asperugineus</i> (D. C. Eat.) Gray	OC- Open slopes, brush	x	x			
<i>E. bloomeri</i> Gray	OC- Dry slopes, forb-grass	x				
<i>E. caespitosus</i> Nutt.	IF- Low sagebrush	x				
<i>E. chrysopsidis</i> Gray						
ssp. <i>austinae</i> (Greene) Cronq.	OC- Open ridges		x			
<i>E. compositus</i> Pursh						
var. <i>discoideus</i> Gray <i>E. latius</i>	OC- Brush type		x			
<i>E. peregrinus</i> (Pursh) Greene						
ssp. <i>callianthemus</i> (Greene) Cronq.	OC- Damp to wet meadows			x	x	
<i>E. pumilus</i> Nutt.	OC- Dry ridgetop		x			
<i>E. speciosus</i> (Lindl.) DC.						
var. <i>macranthus</i> (Nutt.) Cronq.	OC- Forb & aspen types		x	x		
<i>E. watsoni</i> (A. Gray) Cronq.						
<i>Grindelia squarrosa</i> (Pursh) Dunal	OC- Miller Creek	x				
<i>Haplopappus acaulis</i> (Nutt.) Gray	OC- Bare ridges		x			x
<i>H. carthamoides</i> (Hook.) Gray	IF- Open slopes & meadows		x			
<i>H. lanceolatus</i> (Hook.) Torr. & Gray	Lower flats	x				
<i>H. macronema</i> Gray	OC- High slopes				x	x
<i>H. nanus</i> (Nutt.) D. C. Eat.	Rocky slopes (76 Creek)		x			
<i>H. stenophyllus</i> Gray	OC- Sagebrush (Haystack Cr.)	x				
<i>Helianthella uniflora</i> (Nutt.) T. & G.	FR- Brush, timber edge		x	x	x	
<i>Lactuca pulchella</i> (Pursh) DC.	IF- Roadside, riparian	x				
<i>Leucelene ericoides</i> (Torr.) Greene	IF- Sagebrush type		x			
<i>Lygodesmia spinosa</i> Nutt.	OC- Dry slopes, sagebrush	x	x			
<i>Machaeranthera canescens</i> (Pursh) Gray	OC- Brush types		x			
<i>Madia glomerata</i> Hook.	OC- Big Bend Creek		x			
<i>M. gracilis</i> (Smith) Keck	IF- Sagebrush t.		x			
<i>Matricaria matricarioides</i> (Less.) Porter	FR- Roadside			x		
<i>Microseris nutans</i> (Geyer) Schultz -Bip.	FR- Brush types	x	x			
<i>M. troximoides</i> Gray	IF- Brush type		x			
<i>Rudbeckia occidentalis</i> Nutt.	OC- Aspen type			x	x	
<i>Senecio canus</i> Hook.	OC- Open ridges & slopes	x	x			
<i>S. cymbalarioides</i> Buek.	OC- Brush types		x	x		
<i>S. hydrophilus</i> Nutt.	LA- Meadows	x	x	x		
<i>S. integerrimus</i> Nutt.						
var. <i>exaltatus</i> (Nutt.) Cronq.	FR- Brush types	x	x	x		
<i>S. multilobatus</i> T. & G.	Sagebrush (Merritt Cr.)		x			
<i>S. pseudoaureus</i> Rydb.	OC- Salix types, meadows			x	x	
<i>S. serra</i> Hook. <i>S. streptanthifolius</i>	OC- Brush & aspen types		x	x		
<i>Solidago canadensis</i> L.						
var. <i>salebrosa</i> (Piper) Jones	FR- River bottoms	x				
<i>Stephanomeria exigua</i> Nutt.	Roadside	x				
<i>Taraxacum officinale</i> Weber	OC- Brush & aspen types		x	x		
<i>Tetradymia canescens</i> DC.	FR- Sagebrush types	x	x			
<i>Townsendia parryi</i> D. C. Eat.	OC- Exposed ridge		x			
<i>Tragopogon dubius</i> Scop.	OC- Sagebrush types			x		

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<p>Wyethia amplexicaulis (Nutt.) Nutt. W. helianthoides Nutt.</p>	<p>LA- Heavy soils LA- Damp meadow (Pole Creek)</p>		x	x	x	

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